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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,682	12/02/2003	Dennis M. Lengyel	NUKZ 2 00446	3419
27885	7590	10/17/2005	EXAMINER	
FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			VO, ANH T N	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/725,682	Applicant(s) LENGYEL, DENNIS M.	
	Examiner Anh T.N. Vo	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 15 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7 and 10 is/are rejected.
- 7) ☒ Claim(s) 2-5, 8, 9, and 11-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings Object to

The drawing is objected to in that an element 40 of Fig. 1 should be connected into the system to perform its function. Correction is required.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 10 are rejected under 35 USC 102 (b) as being anticipated by Yu (US Pat. 4,240,082).

Note: The method steps are inherently taught in the apparatus device/limitations in the rejections as follow:

Yu disclose in Figure 1 an ink jet recording apparatus comprising:

- a fixture (not shown) adapted to receive the associated ink cartridge (10) therein;
- an ink removal device (16) operatively connected to the fixture through a fluid line (12, 20) for removing ink from the associated ink cartridge (10) in a controlled manner;
- a sensor (40) monitoring flow to the ink removal device (16) and forwarding data relating to such flow to a processor (38);

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- an air removal device (36) selectively connected to the fluid line (12, 20) via a valve (34) for removing air therefrom; and
- wherein the ink removal device (16) is connected to an internal cavity of the associated ink cartridge (10) through an outlet port (not shown) thereof.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-7 and 10 are rejected under 35 USC 103 (a) as being unpatentable over Arakawa (JP Pat. 60024954) in view of Kashimura et al. (US Pat. 6,007,193) and further in view of Pawlowski et al. (US Pat. 5,975,689).

Note: The method steps are inherently taught in the apparatus device/limitations in the rejections as follow:

Arakawa discloses in Figure 1 an ink jet printer comprising:

- a fixture (not shown) adapted to receive the associated ink cartridge (1) therein;
- an ink removal device (5) operatively connected to the fixture through a fluid line (4) for removing ink from the associated ink cartridge (1) in a controlled manner; and
- a sensor (8) monitoring flow to the ink removal device (5) and forwarding data relating to such flow to a processor (not shown); and
- wherein the ink removal device (5) is connected to an internal cavity of the associated ink cartridge (1) through an outlet port (3) thereof.

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However, Arakawa does not disclose an air removal device that is selectively connected to the fluid line via a valve for removing air therefrom and the air removal device is a second syringe.

Nevertheless, Kashimura et al. disclose in Figure 2 an ink jet printer comprising an air removal device that is (3) selectively connected to the fluid line (2) via a valve (4) for removing air therefrom.

Furthermore, Pawlowski, Jr. et al. disclose in Figure 6 an air purge apparatus comprising the air removal device (154, 156) is a second syringe.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Kashimura et al. and Pawlowski, Jr. et al. in the Arakawa ink jet printer for the purpose of expelling air bubbles outside from air bubbles collection portions.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art references (US Pat. 5,485,187, US Pat. 5,880,748; US Pat. 5,912,688; US Pat. 5,963,237; US Pat. 6,059,405; US Pat. 6,250,747; US Pat. 4,301,459; Pub US 2004/0061747) cited in the PTO 892 form show an ink jet printer that is deemed to be relevant to the present invention. These references should be reviewed.

Allowable Subject Matter

Claims 2-5 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses an apparatus for measuring resistance to fluid flow from an associated ink cartridge comprising an ink removal device that is a first syringe in the

combination as claimed.

Claim 8 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses an apparatus for measuring resistance to fluid flow from an associated ink cartridge comprising an ink removal device that includes a variable, pulseless pump in the combination as claimed.

Claim 9 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses an apparatus for measuring resistance to fluid flow from an associated ink cartridge comprising the valve being a three-way valve that is interconnected in the fluid line between the fixture and the ink removal device for selectively purging the fluid line of air in the combination as claimed.

Claim 11 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses a method of measuring impedance to flow of ink from an ink cartridge with a testing system that includes a fixture for holding the ink cartridge, a pulseless pump operatively connected to the fixture via a fluid line, a sensor including a pressure transducer for monitoring fluid line pressure, and an air removal syringe operatively connected to the fluid line, the method comprising a step of varying a rate of ink removal from the ink cartridge in the combination as claimed.

Claim 12 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses a method of measuring impedance to flow of ink from an ink cartridge with a testing system that includes a fixture for holding the ink cartridge, a pulseless pump operatively connected to the fixture via a fluid line, a sensor including a pressure transducer for monitoring fluid line pressure, and an air removal syringe operatively

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connected to the fluid line, the method comprising a step of removing air from the testing system after the ink cartridge has been inserted into the fixture in the combination as claimed.

Claim 13 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses a method of measuring impedance to flow of ink from an ink cartridge with a testing system that includes a fixture for holding the ink cartridge, a pulseless pump operatively connected to the fixture via a fluid line, a sensor including a pressure transducer for monitoring fluid line pressure, and an air removal syringe operatively connected to the fluid line, the method comprising a step of developing fluid impedance characteristics of the ink cartridge based on the collected data in the combination as claimed.

Claims 14-15 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses a testing apparatus for measuring ink flow characteristics of a cartridge comprising a syringe pump that operatively associated with the fluid passage for pumping ink from the associated cartridge at a selected flow rate and a pressure transducer monitoring flow through the fluid passage and providing data to a processor for storing and information relating to impedance characteristics of the cartridge in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M..

The fax number of this Group 2861 is (571) 273-8300.


ANH T. N. VO
PRIMARY EXAMINER

09/27/05